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PATENT ABSTRACTS OF JAPAN

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(21)Application number: 09-060377 (71)Applicant: UNITED MICROELECTRON

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RO KOHAKU

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(30)Priority

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Priority date: 07.09.1996

Priority country: TW

(54) MANUFACTURE OF CONDUCTIVE PLUG

(57)Abstract:

PROBLEM TO BE SOLVED: To prevent the generation of voids in a conductive plug and to prevent the resistance value of the plug from being increased by a method, wherein a diffusion barrier layer is formed on an exposed conductive region and the peripheral part of a contact

will done and a lively open planning troughters to performed to fill a conductive material in the contact window.

SOLUTION: A diffusion barrier layer 24 is formed on a region 20a made of a conductive material, the periphery of a contact window 23 and the upper surface of an insulating layer 22 and a hydrogen plasma treatment is performed on the conditions of power of 3000W or lower, a hydrogen flow rate of 3000sccm or lower, a

resistance value of the plug can be reduced.

reaction temperature of 1000°C or lower and 10-second to 10-minute reaction intervals. A conductive material 26, such as tungsten, is filled in the window 23 by a PVD or the like and a conductive plug having the smallest void 28 is formed. Accordingly, the problem of the generation of voids is dissolved, and the contact

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最終良に続く

(60) (発展され場) - **名献プラグの観光**が成 (明) (発度)

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(1948) - 選択プラフルが成为法を開業する。 (977年4) - 当他は中でもするデバイでかってもを提 けらればまれる。途中がかれば年年に対しまれる。 (977年4) - コンプレフリアが、「以の原発経過と最近でき コンタン、マインドンの所載される。を開設に終れる形 にた過程を展立コンタクトウィンドの処理が記載される。 (水学プラスで解析が最后工作で行われ、機能物が コンタントウィンドラに適用されて原金ントが形力を できた。

